TOOLS AND EQUIPMENT

adjustable wrenches
bolt bag(s)
bolt cutter
bull pin
burning glasses
C-clamps
centre punch
chain and ladder hook
chalk holder
chalk line
chisel
clip wrench (30 cm adjustable)
coke
combination square (3 cm)
connecting bar
coveralls
decoiler
electric drill and bits
fire extinguishers
flat screwdriver
forge
funnels
gloves
grinder
grinding wheels
grout mixer, pump and accessories
hacksaw and blades
hammers (various types)
hard hat
hearing protection
hydraulic pump
lanyard
leather jacket
medium file
nylon slings
open-end wrenches (2 sizes)
Phillips screwdrivers (2 sizes)
pipe wrench
pliers
plumb bob
portable cutoff saw
power cords
propane
reels
respirator
rivet buster (long tong)
riveting gun
Robertson screwdrivers (4 sizes)
rod bag
rod oven
rubber mallet
safety belt
safety boots
safety glasses
safety harness
safety scaffolds
scriber
side cutter
sledgehammers
socket set
spud wrenches (various sizes)
square
stapler
stressing adapters, stressing rods and accessories
stressing jack
striker
tape measure
tarps
tin snips
tongs
torch
torch lighter
torpedo level
two-way radios
utility knife
vice grips
welding gloves
welding helmet
welding machine
winch and tuggerwire brush
wire mesh pulling grips
wire reels

GLOSSARY

becket	a device used to connect cable to a block or boom.
bridle (cradle)	two or more slings used to lift a load.
bull pin	a tapered pin for lining up material.
bursting steel	reinforcing steel used to prevent bursting of concrete during and after post-tensioning.
cathead	a sheave assembly.
chairs	reinforcing bar support.
choker	wire rope or fabric sling with eye splice or loop at each end.
clip wrench	adjustable wrench.
come-along	a hand operated device used to pull cable or chain or for hoisting loads.
curtain wall	an exterior building wall which carries no roof or floor loads composed principally of metal, but which may contain glass or other surface materials.
dog	an L-shaped metal instrument used to align plates.
drift pin	a round tapered piece of metal used to align holes.
dunnage	blocking (usually wood) to temporarily support equipment and material off the ground.
fid	wooden spike for splicing fibre rope.
frog	leather holder for spud wrenches.
girder	a beam that supports roof or floor load weights.
grommet sling	an endless sling of fibre rope.

headache ball	a counterweight on a line.
hickey bar	steel bar for bending reinforcing bars.
jig	a device used in holding materials for bending, drilling or welding.
joist	intermediate structure that supports roof or floor load weights.
key	metal device used to align tank walls.
lash	a random length of cable secured by cable clamps and used to temporarily secure loads.
marline spike	metal spike for splicing wire rope.
match mark	coding components for the purpose of proper reassembly.
plumb	aligned and level.
profile	proper elevations and locations of post-tension cable.
sag rod	a vertical supporting rod between two members.
snatch block	interlocking hoisting block.
spud wrench	pointed wrenches for lining up materials.
stirrups	deformed or plain bars bent to support and contain the longitudinal bars of a beam, girder, etc.
suitcase	a multi-sheaved block.
swayger	hydraulic crimping machine.
tag line	line used for guiding loads during hoisting or moving to prevent swinging.
thimble	curved metal plate for protecting rope or wire eyes from chaffing or cutting.
tie rod	a horizontal fastening rod between two members.
Tirfor	a hand operated pulling or hoisting device.

tugger	compressor operated hoisting device.
turnbuckle	a device attached to wire rope for making limited adjustments in lenght; it consists of a barrel and right and left hand treaded bolts.
U-bolt	a semi-circular rod with threaded ends.

PERCENTAGE RATINGS

BLOCK A SAFETY, ACCIDENT PREVENTION AND FIRST AID

Task 1 Practices safety and maintains a safe work environment.

BLOCK B JOB PLANNING AND PREPARATION

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	5	ND	NV	5	5	6	5	3	ND	ND	5%

Task 2 Plans job in accordance with drawings, work site requirements and specifications.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	50	ND	NV	20	20	20	60	50	ND	ND	37%

Task 3 Coordinates delivery and installation of materials and equipment as job progresses.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	50	ND	NV	80	80	80	40	50	ND	ND	63%

BLOCK C RIGGING AND MACHINERY MOVING

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	3	ND	NV	10	10	14	15	20	ND	ND	12%

Task 4 Prepares wire and fibre ropes and tackle.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	20	ND	NV	55	80	10	50	20	ND	ND	39%

Task 5 Rigs and moves loads.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	80	ND	NV	45	20	90	50	80	ND	ND	61%

BLOCK D ERECTION OF HOISTING AND CONVEYANCE EQUIPMENT

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	2	ND	NV	18	10	12	8	11	ND	ND	10%

Task 6 Assembles, erects, jumps and dismantles tower cranes.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	30	15	15	20	11	ND	ND	15%

Task 7 Assembles, erects, jumps and dismantles various derrick types.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	20	5	5	5	5	ND	ND	7%

Task 8 Assembles and dismantles conventional and hydraulic cranes.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	2	ND	NV	15	35	25	30	22	ND	ND	22%

Task 9 Assembles, erects, jumps and dismantles material and personnel hoists.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	28	ND	NV	12	10	5	15	7	ND	ND	13%

Task 10 Installs support structures, framework and related structural and mechanical equipment for conveying systems and material handling systems.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	70	ND	NV	23	35	50	30	55	ND	ND	43%

BLOCK E ERECTION OF STRUCTURAL IRONWORK

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	55	ND	NV	37	30	51	35	34	ND	ND	40%

Task 11 Erects structural steel framework for buildings, bridges and towers.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	40	ND	NV	20	40	60	30	53	ND	ND	40%

Task 12 Erects metal storage tanks, bins and hoppers.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	10	ND	NV	10	5	10	10	6	ND	ND	9%

Task 13 Assembles and erects pre-engineered buildings, bridges, silos, and similar structures.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	15	ND	NV	12	10	5	15	6	ND	ND	11%

Task 14 Assembles and installs curtain walls, window walls, doorways, store fronts, revolving doors, mantraps, etc., in and on buildings.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	5	ND	NV	15	5	10	10	6	ND	ND	9%

Task 15 Installs ornamental and miscellaneous ironwork and non-ferrous components, such as stairways, railings, panels, catwalks, fences, sound barriers, vehicle guard rails, etc.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	5	ND	NV	15	20	5	15	12	ND	ND	11%

Task 16 Erects structural and architectural precast concrete components for buildings, bridges, towers and other structures.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	15	ND	NV	8	10	5	15	12	ND	ND	11%

Task 17 Inspects or tests structures and equipment for deterioration, defects, non-compliance with specifications or regulations and unsafe conditions during or after construction.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	5	ND	NV	7	5	2	2	2	ND	ND	4%

Task 18 Dismantles building framework, bridges, tanks, silos or other structures made of metal, precast concrete or laminated timbers.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	5	ND	NV	13	5	3	3	3	ND	ND	5%

BLOCK F **REINFORCING CONCRETE**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	25	ND	NV	5	25	0	29	25	ND	ND	18%

Task 19 Positions and secures steel bar or wire mesh reinforcing in forms prior to the pouring of concrete for grade beams, footings, walls, floors, columns, caissons and other components.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	90	ND	NV	85	80	0	80	80	ND	ND	83%

Task 20 Post-tensions tendons (steel cables or rods) in cast-in-place or precast concrete for reinforcement purposes.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	10	ND	NV	15	20	0	20	20	ND	ND	17%

BLOCK G **MOVING AND INSTALLATION OF ROBOTIC EQUIPMENT**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	15	5	5	1	1	ND	ND	5%

Task 21 Erects and installs robotic equipment for material handling and automated mechanical systems.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	100	100	100	100	100	ND	ND	100%

BLOCK H **ERECTION OF SCAFFOLDS, FALSEWORK AND OTHER WORKING PLATFORMS**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	10	ND	NV	8	10	9	5	5	ND	ND	8%

Task 22 Erects temporary frame or tube scaffolds, falsework, shoring, etc.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	90	ND	NV	40	80	50	50	70	ND	ND	63%

Task 23 Suspends scaffolds from structures.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	10	ND	NV	60	20	50	50	30	ND	ND	37%

BLOCK I **ERECTION OF WOOD STRUCTURES**

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	2	5	3	2	1	ND	ND	2%

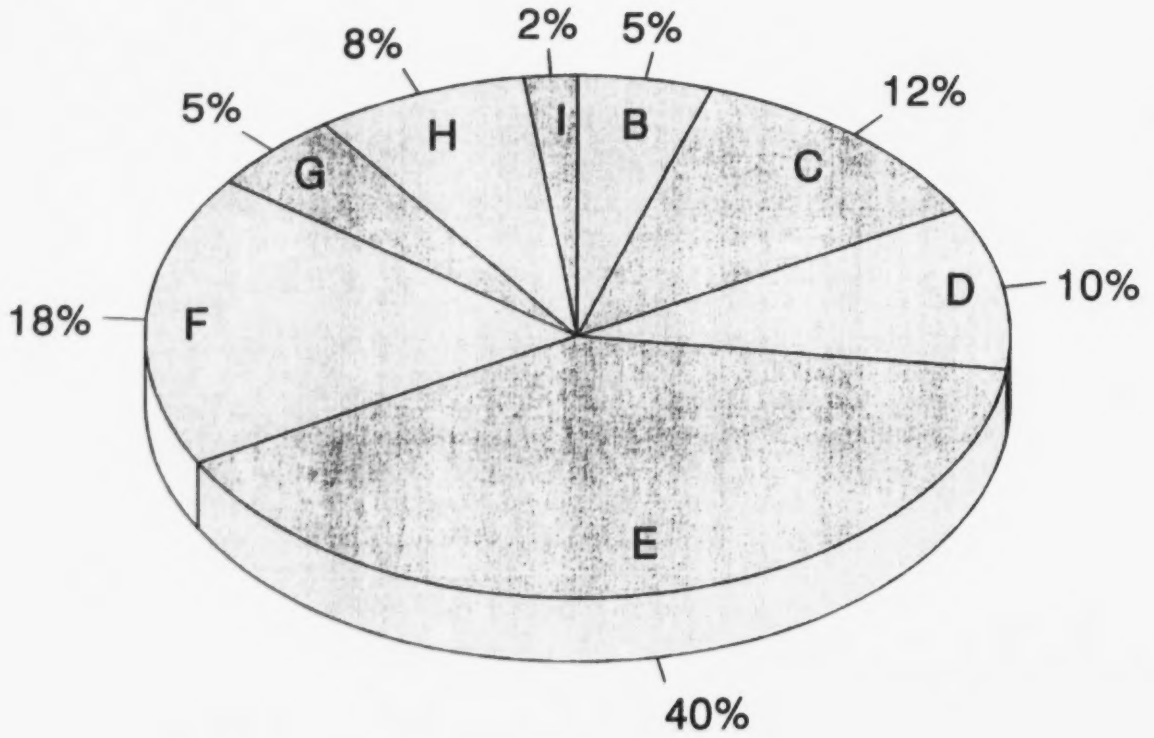
Task 24 Erects structural wood material for buildings (such as mine product storage), churches, schools, pedestrian bridges and walkways.

%	NF	NS	PE	NB	PQ	ON	MA	SK	AB	BC	NT	YK	Nat. Avg.
	ND	ND	0	ND	NV	100	100	100	100	100	ND	ND	100%

BLOCK PERCENTAGES

BLOCK PERCENTAGES*

Ironworker (Generalist)



* The average time a worker spends performing each block in a given year in relation to other blocks of the analysis, taking into consideration the complexity (importance plus difficulty) of the block.

TITLES OF BLOCKS

A	SAFETY, ACCIDENT PREVENTION AND FIRST AID**
B	JOB PLANNING AND PREPARATION
C	RIGGING AND MACHINERY MOVING
D	ERECTION OF HOISTING AND CONVEYANCE EQUIPMENT
E	ERECTION OF STRUCTURAL IRONWORK
F	REINFORCING CONCRETE
G	MOVING AND INSTALLATION OF ROBOTIC EQUIPMENT
H	ERECTION OF SCAFFOLDS, FALSEWORK AND OTHER WORKING PLATFORMS
I	ERECTION OF WOOD STRUCTURES

** Since safety practices are a mandatory feature of all occupations, they are considered common core, ratings are not required and thus Block A does not appear on the chart.